

Appl. No. 10/701,848
Response dated May 23, 2006
Reply to Office Action of Nov. 23, 2005

Listing of the Claims:

Claims 1 and 16 are amended by this response. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A system that facilitates updating of firmware in an electronic device with a file system, the system comprising:

an electronic device comprising:

at least one of volatile and non-volatile memory;

loader software that supports a plurality of loaders, wherein, during operation, each of the plurality of loaders performs downloading of specific information for updating firmware;

update software that supports retrieving the information for updating firmware in the electronic device; and

communication software that administers communicating the information for updating firmware from a server.

2. (Previously Amended) The system according to claim 1 wherein the system further comprises a driver software that communicates, to the update software, information about the retrieved information for updating firmware in the electronic device.

3. (Original) The system according to claim 1 wherein the server is an external system.

4. (Original) The system according to claim 1 wherein the server is a local file system.

5. (Original) The system according to claim 1 wherein the update software comprises:

loading software that retrieves updating information from the server;

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updating software that applies the retrieved information for updating firmware in the electronic device;

security software that supports secure communication between the server and the electronic device;

setting software that sets values of data to indicate information about the information for updating firmware; and

memory management software that manages accessing and manipulating information in the memory.

6. (Original) The system according to claim 5 wherein the update software further comprises a reference comprising at least one parameter related to the information for updating firmware.

7. (Original) The system according to claim 6 wherein the at least one parameter comprises a 4-byte state flag.

8. (Original) The system according to claim 6 wherein the at least one parameter comprises an address referencing the information for updating firmware.

9. (Original) The system according to claim 6 wherein the at least one parameter comprises an address referencing a backup section.

10. (Original) The system according to claim 6 wherein the at least one parameter comprises a 4-byte CRC value.

11. (Original) The system according to claim 5 wherein the security software controls information in the electronic device, wherein the information indicates whether the firmware in the electronic device needs updating.

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12. (Original) The system according to claim 6 wherein the security software utilizes the setting software to set the value of the at least one parameter.

13. (Original) The system according to claim 6 wherein the updating software uses the reference to determine whether the firmware in the electronic device needs updating.

14. (Original) The system according to claim 6 wherein the updating software uses the reference to determine the location of the information for updating firmware.

15. (Original) The system according to claim 1 wherein the update software utilizes a uniform resource locator (URL) to download information for updating firmware from the server.

16. (Currently Amended) A method for updating firmware or software in an electronic device having an operating system comprising ~~with a~~ file system, the method comprising:

receiving downloading information for updating the firmware or software ~~in the~~ electronic device ~~from a server;~~

with operating system support:

~~saving the downloaded information for updating firmware in the file~~
system;

storing the information for updating firmware or software in a location in the file system ~~of the saved information for updating firmware to a memory reference;~~
and

saving, in a memory reference, information identifying the location in the
file system of the information for updating firmware or software; and

without the operating system support:

accessing the information identifying the location of the information for
updating firmware or software in the file system; and

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updating firmware or software in the electronic device employing the stored information for updating firmware or software by using the information identifying the location of the information for updating firmware or software in the file system.

~~determining whether the firmware needs to be updated when the electronic device reboots.~~

17. (Original) The method according to claim 16 wherein, if it is determined that the firmware does not need updating, the method further comprises a normal start up of the electronic device.

18. (Original) The method according to claim 16 wherein, if it is determined that the firmware does need updating, the method further comprises:

retrieving the reference to the information for updating firmware from the memory; and

updating the firmware using the information for updating firmware.

19. (Original) The method according to claim 18 wherein the method further comprises communicating a confirmation of the updating of the firmware to the server.

20. (Original) The method according to claim 18 wherein the method further comprises testing the updated firmware for errors.

21. (Original) The method according to claim 20 wherein the method further comprises communicating any errors found to the server.

22. (Original) The method according to claim 16 wherein the electronic device retrieves status information from the information for updating firmware via the memory

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reference to determine whether the firmware needs to be updated using the information for updating firmware.